


<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/975,296	SHENG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sharlene Leurig	2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on May 24, 2004.
2. ☒ The allowed claim(s) is/are 1-7, 11-27 and 31-49.
3. ☒ The drawings filed on 10-12-01 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on May 24, 2004 has been entered and acknowledged by the examiner.

### ***Allowable Subject Matter***

2. Claims 1-7, 11-27 and 31-49 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Regarding claims 1-7, 11-17, 40-42 and 46-49, the prior art of record fails to teach or suggest the combination of limitations of claims 1 and 46.

Boyle (3,581,151) teaches an electron emitter device having an electron supply structure (31) having a protrusion (32) formed on its top side, an insulator layer (34) having a protrusion that conforms to part of the protrusion of the electron supply structure, and a conductive layer (33) formed on the insulator layer. Boyle fails to teach or suggest an insulator having a protrusion that conforms to the whole protrusion of the electron supply structure, and therefore fails to teach or suggest an insulator having a protrusion that substantially conforms to the protrusion of the electrons supply layer, as claimed in claims 1 and 46.

Therefore the prior art of record fails to teach or suggest the combination of limitations of claims 1 and 46, and specifically comprising the limitation of an electron emitter device having an insulator having a protrusion that substantially conforms to the protrusion of the electrons supply layer.

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Regarding claims 18-27, 31-39 and 43-45, the prior art of record fails to teach or suggest the combination of limitations of claims 18 and 43.

Kaneko et al. (EP 0 367 195 A2) (of record) teaches an electron emitter device having an electron supply structure with at least one protrusion (Figure 11, element 1a) formed thereon and an insulator (21 and 22) formed above the electron supply structure and the protrusion, wherein the insulator is thinner near the protrusion, and also having a conductive layer formed on the insulator.

Kaneko fails to teach or suggest an insulator having a shape that could be described by the customary and ordinary meaning of the word hourglass.

Therefore the prior art of record fails to teach or suggest the combination of limitations of claims 18 and 43, and specifically comprising the limitation of an electron emitter device having an insulator formed on the electron supply layer including a protrusion on the electron supply layer wherein the insulator is thinner near the protrusion and has an hourglass shape.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

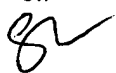
Art Unit: 2879

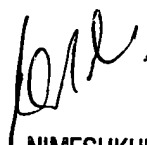
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (571) 272-2455. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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